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## Soil Moisture

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# Soil Moisture

## **Abstract**

Soil moisture samples were taken at 29 sites in northwest Iowa during late October 2005. Moisture samples were taken at 1-ft increments to a 5-ft depth. Samples were weighed, oven dried, and reweighed at the Sutherland Research Farm. The moisture percentages were calculated from these data, and then they were used to calculate the inches of plant available moisture in the soil.

## **Disciplines**

Agricultural Science | Agriculture

## Soil Moisture

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Soil moisture samples were taken at 29 sites in northwest Iowa during late October 2005. Moisture samples were taken at 1-ft increments to a 5-ft depth. Samples were weighed, oven dried, and reweighed at the Sutherland Research Farm. The moisture percentages were calculated from these data, and then they were used to calculate the inches of plant available moisture in the soil. The data from these sites are listed in Table 1.

Long-term fall averages range from 4.5 in. to 6.0 in. in the top 5 ft of soil, but averages for the last 15 years have been significantly higher. The maximum plant available moisture level for most of these soils is approximately 11 in. in the top 5 ft of soil. September precipitation brought many sites back up to and above the long-term average in northwest Iowa, but some areas in west-central Iowa are still short of subsoil moisture.

**Table 1. Soil moisture available to plants in inches.**

| <u>Site</u>     | <u>County</u> | <u>2005 crop</u> | <u>Plant available moisture</u> |
|-----------------|---------------|------------------|---------------------------------|
| Calumet         | O'Brien       | soybeans         | 9.9 in.                         |
| Sanborn         | O'Brien       | soybeans         | 8.6 in.                         |
| Doon            | Lyon          | soybeans         | 9.0 in.                         |
| Sibley          | Osceola       | soybeans         | 7.0 in.                         |
| Boyden          | Sioux         | soybeans         | 9.4 in.                         |
| Ireton          | Sioux         | corn             | 8.5 in.                         |
| Akron           | Plymouth      | soybeans         | 4.0 in.                         |
| LeMars          | Plymouth      | soybeans         | 6.0 in.                         |
| Hinton          | Plymouth      | corn             | 3.9 in.                         |
| Kingsley        | Plymouth      | corn             | 5.6 in.                         |
| Aurelia (North) | Cherokee      | soybeans         | 9.0 in.                         |
| Aurelia (South) | Cherokee      | soybeans         | 7.1 in.                         |
| Cherokee        | Cherokee      | soybeans         | 8.3 in.                         |
| Marcus (North)  | Cherokee      | soybeans         | 9.8 in.                         |
| Marcus (South)  | Cherokee      | soybeans         | 6.2 in.                         |
| Lawton          | Woodbury      | corn             | 3.0 in.                         |
| Anthon          | Woodbury      | corn             | 6.7 in.                         |
| Rossie          | Clay          | corn             | 8.3 in.                         |
| Spirit Lake     | Dickinson     | soybeans         | 6.2 in.                         |
| Estherville     | Emmet         | corn             | 7.8 in.                         |
| Newell          | Buena Vista   | corn             | 4.9 in.                         |
| Ida Grove       | Ida           | corn             | 2.2 in.                         |
| Holstein        | Ida           | corn             | 6.3 in.                         |
| Battle Creek    | Ida           | corn             | 1.9 in.                         |
| Sac City        | Sac           | corn             | 6.8 in.                         |
| Schaller        | Sac           | soybeans         | 6.5 in.                         |
| Odebolt (North) | Sac           | corn             | 5.8 in.                         |
| Odebolt (South) | Sac           | corn             | 3.1 in.                         |